

Remarks/Arguments

An abstract on a separate sheet has been provided.

Fig. 1 has been corrected so that numeral references 2, 3 and 4 correctly designate a module, an optical fiber and the film surrounding an optical fiber, respectively.

In addition, the label for the brief description of the drawings has been added. However, the location of the brief description of the drawings has not been moved. Applicants believe the description is better understood in its present location, since the drawings represent one specific embodiment of the invention which follows immediately after the brief description of the drawings. However, applicants would certainly entertain any comments from the Examiner in this regard.

Claims 1-12 have been previously canceled, claims 15-17 are canceled and corresponding features are introduced in claim 13, thus claims 13-14 and 18-31 remain in the application.

Response to claim objections

Claim 13 has been paragraphed. In addition, features from claims 15-17 have been introduced into claim 13, as will be discussed below in the paragraph relating to the rejections under 35 USC 102.

Response to claim rejections – 35 USC §112:

"Occupancy of the cavity along the axes":

As the examiner has stated, the fibers, having a certain thickness, necessarily occupy a space which necessarily has both an x and a y component. The space occupied by the fibers is defined in relation to the x and y components of the whole cavity, and more specifically in relation to the long (longer) and short (shorter) axis (or width) of the cavity: The fibers collectively occupy the cavity in both axes (or widths), but they occupy more space in one axis (or width) than in the other, hence the wording: "they occupy the greater part of the cavity in the direction of the long axis (or width) but that they allow a clearance in the cavity in the direction of the shorter axis (or width) of the cavity".

"Continuous accessibility":

As stated by the examiner, and as is clear from the specification (see in particular page 3 lines 33-38), the term "continuous accessibility" means that the fibers can be accessed anywhere along the cable. Claim 13 has been amended accordingly.

Claim 15:

Claim 15 has been canceled and a corresponding feature has been introduced into claim 13. This objection is thus moot.

Response to claim rejections – 35 USC §102/103

First of all, it is hereby confirmed that the various claims were commonly owned at the time the inventions covered therein were made.

Oestrich et al. describe an optical cable OC having an outer sheath AM in the interior of which is arranged an optical waveguide AD having a rectangular protective covering SH forming a rectangular chamber CA in which are positioned optical fibers arranged in the form of ribbons BLn. The ribbon conductors are arranged with their broad sides substantially parallel to the preferred bending plane (Cf. Col. 2 lines 53-55), which coincides with the short axis of the optical waveguide AD and the chamber CA. The ribbon conductors possibly have a certain play laterally, i.e. in the bending plane (Cf. Col. 30-34). Additionally, strength elements TE1/TE2 may be arranged, their positioning always being performed symmetrically with respect to the bending plane BP (Col. 4 lines 11-19).

In other words, in the optical cable of Oestrich et al., the ribbons are stacked in the bending plane of the chamber, which has a short axis (in the bending plane) and a long axis, and if there is a certain play, then it is laterally, i.e. in the bending plane and in the short axis.

The issue in this document is to permit the provision of an appropriate excess length of the ribbon conductors in a simple manner (Col. 2 lines 29-30).

The question of the access to the optical fibers or ribbons from the outside is never dealt with or mentioned. In fact, it is even stated that it is possible to fill the interstices and the interior

of the chamber with a filler (Col. 5 lines 29-35), which would even less suggest an easy access to the fibers.

Stevens et al. disclose optical fiber cables having cable jackets with non-circular cavity cross sections for improved crush resistance. This is accomplished by having the minor axis of the non-circular cavity substantially aligned with a line extending between the strength members, i.e. aligned with the bending plane (Col. 1 lines 48-52).

As in Oestrich, the question of the access to the fibers is not mentioned or discussed, the only issue is the improvement of the crush resistance, and the alignment of the short axis of the cavity and the strength members.

Nagano et al. discuss a flat optical fiber cable comprising at least one optical fiber ribbon cord (2), tension members (3) and a sheath (4). The optical fiber ribbon cord (2) includes optical fiber cores (8), optical fiber ribbon core (8A), tensile strength fiber (9) and a sheath for cord (10). The longer axis of the sheath (10) may coincide with the longer axis of the core (8A), and the sheath may have slots (13).

The issue in this document is to obtain a cable which is easy to construct and assemble and which prevents damage to the fibers and deterioration of the performance (see abstract, and Col. 3 lines 36-67).

The aim of the instant invention is different from the aim of the inventions of the cited prior art, in that it is to obtain an optical cable with continuous accessibility, i.e. in which the fibers can be accessed anywhere along the cable. This object is achieved in an optical cable according to claim 13, i.e. an optical cable comprising:

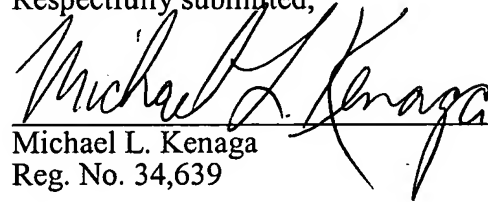
a closed protective sheath surrounding a cavity having in cross section two substantially perpendicular axes intersecting at the center of the cavity, each axis defining a width of the cavity, one width being wider than the other shorter width; and

at least two optical fibers positioned lengthwise in the cable and arranged such that they occupy the greater part of the cavity in the direction of the wide width but that they allow a clearance in the cavity in the direction of the shorter width of the cavity.

Such an arrangement is neither disclosed, nor suggested by any of the cited prior art, which thus and furthermore cannot be combined in order to teach the instant invention since each relates to an issue different from those of the others and from that of the instant invention.

Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,



Michael L. Kenaga
Reg. No. 34,639

PIPER RUDNICK
P.O. Box 64807
Chicago, Illinois 60664-0807
Phone: 312/368-4000

Customer No.: 28465